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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,336

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David Ashkenasi

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EXAMINER

CHIEM, DINH D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,336	Applicant(s) ASHKENASI ET AL.	
	Examiner ERIN D. CHIEM	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 20-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-34 is/are rejected.
- 7) ☒ Claim(s) 1-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to applicant's request for continued examination filed on October 28, 2009. Currently claims 1-18, and 20-34 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 27-28, 30-31 and 33-34 rejected under 35 U.S.C. 102(b) as being anticipated by Miura et al. EP-01116965 A1).

Regarding claims 27-28, 30-31, and 33-34 Miura discloses an a laser for microstructuring a waveguide such as the invention of claim 20, wherein the laser is constructed to emit at least one light pulse and a focusing device (Para [0028]), the focusing device is implied by disclosing the "focal point." Said laser radiation has a power density of 10^{10} W/cm² or more (Para [0028]). The laser having a mounting for an optical waveguide which is constructed to hold the optical waveguide so that it is displaceable in its longitudinal direction (Para [0043]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2883

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu (WO-00/79319 A1) in view of Daniel (US 4,466,697).

Gu teaches claims 20-26, Gu discloses an optical element comprising an optical waveguide having a first cross-section region with a first refractive index (core), a second cross-section region with a second refractive index (cladding), and a boundary region (the boundary between the core and the cladding), wherein “at least one defined portion of the boundary region is provided with a modification” is a change in the refractive index of the material of the first or second cross-sectional region by micro damage at the cross sectional region (Page 7, lines 13-27). The result of the modification is such that the respective portion of the boundary region light is coupled out of the waveguide in a radial (core to boundary to cladding) and uniform diffusive manner (Page 7, line 28 to Page 8, line 2). The modification manner disposed at a plurality of defined portions of the boundary region is of an optical grating manner (Page 9, line 27- Page 11, line 8).

However, Gu does not explicitly teach a waveguide having a cross sectional portion of undoped silica and wherein the modification having a non-periodic distribution.

Daniel teaches a waveguide having and undoped silica portion (Col. 7, line 39 – 67) having modifications in a non-periodic distribution (Fig. 2, element 40).

Daniel teaches the motivation for having doped and undoped segments in the illuminating waveguide for multiple functions (e.g., illumination and woven harnesses of lightpipe).

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Claims 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Aitken et al. (US 6,573,026 B1). Gu disclose the invention of claim 27 and 28, however Gu does not disclose:

- The laser is constructed to emit light pulses having an energy of 10 nanojoules or less.
- The focusing device is a microscope lens

Aitken disclose the light pulses emitted from the laser for writing on glass is between 1-10 nJ for the purpose of maintaining high oscillation in the order of 100MHz (col. 2, lines 1-17). It would have been obvious to one having ordinary skill in the art to recognize the low power pulse is needed to maintain the preferred high oscillation in the order of 100MHz versus pulses in the micrometers would reduce the oscillation to the kHz. **The motivation** for maintaining high oscillation such that the modification to the fiber would have a noticeable refractive index change.

Aitken disclose the focusing device is a microscope objective lens (col. 7, lines 4-12) for the purpose of adjustability. **The motivation** for using a microscope objective lens as the focusing device is the lens would be adjustable to compensate for the movement of the fiber to provide better focus.

Allowable Subject Matter

Claims 1-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2883

The following is a statement of reasons for the indication of allowable subject matter:

Prior art of record teaches laser radiation require the removal of the buffer layer or at least the buffer layer is used in assisting the radiation process. Thus, the amendment wherein the method of writing gratings on fiber with the buffer layer intact is not taught in the prior art of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIN D. CHIEM whose telephone number is (571)272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Erin D Chiem/
Patent Examiner, Art Unit 2883

/Frank G Font/
Supervisory Patent Examiner, Art Unit 2883